CHAPTER 65

EXTRACTIVISM: A CONTROVERSIAL USE OF THE TROPICAL ECOSYSTEM

Jean Paul LESCURE and Florence PINTON

INTRODUCTION

For several years, members of Brazilian society, scientists, trade unionists and politicians, have argued over the potential future of extractivism – the collection for sale of non-timber forest products. Some see it as an interesting alternative for the sustainable development of Amazonia because of its low ecological impact (Schwartzman, 1989) and because of the significant incomes it can generate for an often impoverished population. Others condemn its low profitability, arguing from the basis of its macroeconomic decline (Homma, 1989). Although this discussion is far from over, the concept of the "extractive reserve" was accepted by politicians at the end of President Sarney's Government and 12 extractive reserves were created or planned. They cover 3 026 550 hectares and involve 8 950 families.

Most of the scientific work underlying the concept deals with the southern part of the Amazon forest block, in the states of Acre and Rondonia, regions marked by high population pressure and intense land speculation linked to the trans-Amazon highway. This work was carried out in communities supported by well organized unions, exploiting Brazil nuts and rubber. Some of the reserves in Acre have scientific support (FUNTAC, 1991). Nevertheless, those studies remain partial and only involve a very few cases that took into account the variability of situations. As a result, generalizations cannot be made from the conclusions drawn from these studies, and consequently the debate about the validity of these reserves has been biased.

The case studies presented by the INPA-ORSTOM group – Pereira dos Santos and Lescure (Chapter 66), de Castro (Chapter 67), Emperaire and Pinton (Chapter 68), Sizer (Chapter 69) – which follow in this volume, present recent and ongoing research being carried out in the state of Amazonas, which is characterized by low population density and relatively easily available land. They deal with four distinct zones (Figure 65.1) occupied by sociologically diverse communities: (1) an indigenous acculturated population on the banks of the Rio Solimões; (2) the area around Manaquiri lake, south of Manaus, a mixture of floodplains, *varzeas*, and non flooded *terra firme*, where the *açai* fruit is collected for the nearby market at Manaus; (3) a *caboclo* community on the middle Rio Negro, still dominated by patrons; (4) the Rio Jaú, a tributary of the lower Rio Negro, a zone decreed as a National Park and emptied of most of its inhabitants. This group of studies highlights several important features and allows us to discuss the potential for improving extractivism.

A COMPONENT OF TRADITIONAL PRODUCTION SYSTEMS

Extractivism cannot be taken out of its context as a production system without running the risk of serious oversimplification. Traditional production systems involve several different activities, each one associated with a particular space. Agricultural practices occur in a mixed area of cultivated plots (swiddens) and old cleared forest plots in various stages of regeneration. For convenience, this area is usually near habitations, less than one hours journey away. A farmer may open a swidden in more remote forest, but will then build a small house so as to be able to stay there for a few days at a time.

Arboriculture takes place in polyspecific and multi-stratified orchards, that we consider as agroforestry systems (*pomar*), also close to habitations. Each generally contains about 30 species, up to sixty if taken on the scale of the community rather than that of the family unit. Horticulture produces herbs and spices, medicinal and decorative plants. It is practised immediately next to the house, often in suspended troughs made out of old canoes (*canteiros*). Small-scale chicken, duck, pig and sometimes sheep or cow raising is practised in the orchards or sometimes in pasture between the orchards and the agricultural zones.

Hunting partly uses the agricultural area, where fruits of pioneer species, tubers and young leaves attract game, but also "virgin" forest, which may either be primary forest or very old secondary forest. Fishing takes place in lakes or streams. Gathering, including edible products and technical materials needed for subsistence, takes place in the recent and old fallows for spontaneous species like *Inga* sp., or in the forest.

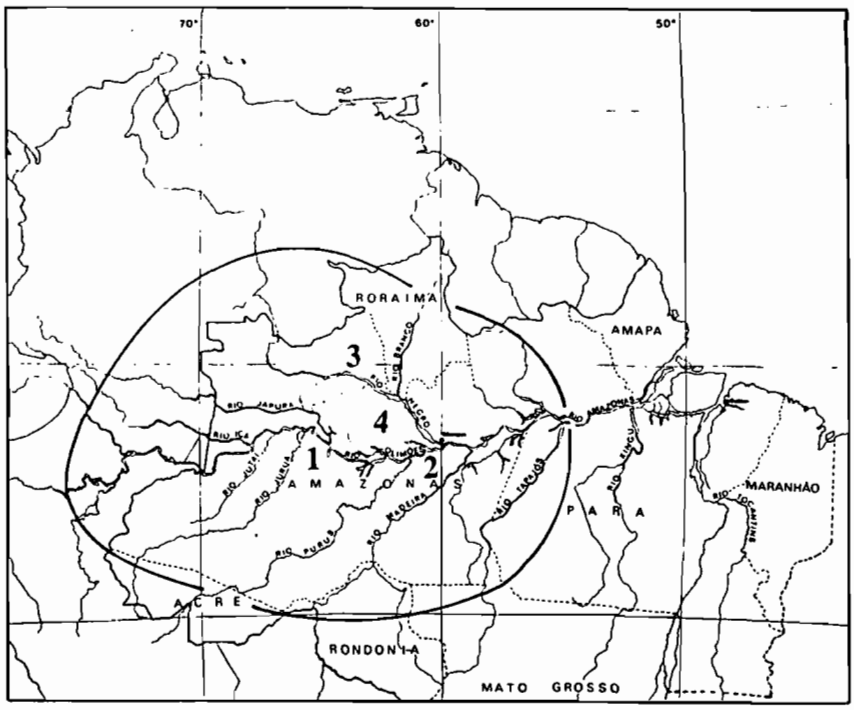

Figure 65.1 The locations of four field studies of extractivism in Amazonia and (shown by the solid line), the area of the *açai* palm, *Euterpe precatoria*
1 – Rio Solimões (see Chapter 66)
2 – Manaus area (see Chapter 67)
3 – Middle Rio Negro (see Chapter 68)
4 – Jaú National Park (see Chapter 69)

Extractivism, which we distinguish from gathering because its products will be sold, or at least bartered, uses the forest and sometimes cultivated plots in which extractive resources are preserved, e.g. Brazil nuts. Thus, the traditional production system is characterized by a multiplicity of activities. Moreover, each component relies on significant biological diversity: numerous species are cultivated in the swiddens, but above all there is a great richness of cultivars, especially of manioc; orchards are rich in species variety; a large number of species are hunted and fished and plants gathered for family use, barter or sale.

While it is true that at the beginning of this century, many collectors, effectively chained to their patrons, were condemned to practise extractivism solely, today, the majority of the rural population are diversifying their activities. Consequently, the understanding of contemporary extractivism must include study of the complexity of the production system.

THE DEVELOPMENT OF AMAZONIA AND THE SOCIO-ECONOMIC SYSTEM

Extractivism was the motor which powered the exploration and development of the Amazon basin (Santos, 1980). Rubber is the best known example (Dean, 1987), but the many other forest products should not be forgotten (Lescure and Castro, 1990). Some, cultivated or replaced by industrial substitutes, have gone out of use, while others are still exploited with various levels of success. The practice of extractivism rapidly acquired a system of organizing labour for the benefit of patrons, and a social relationship developed, characterized by an often total dependence of the collectors on their patron. The exchange structure linking collectors and patron regulates the economic life of rural populations. It is known in Brazil as *aviamento* (Figure 65.2, in its most simple form) which may best be translated as fitting-out, or equipping, in the sense of fitting-out a ship.

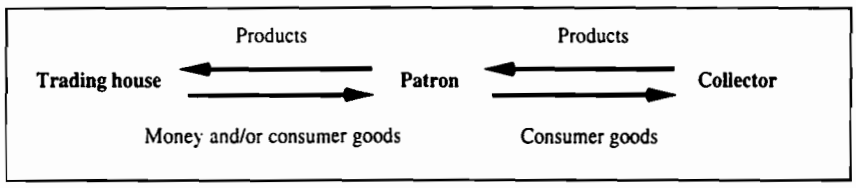

Figure 65.2 Simplest form of the *aviamento* structure

The trading house, in other words the exporter, is related to the outside market by monetary exchange. It advances money, or sometimes consumer goods, to the patrons. They each own land, or at least rights to exploit land, and use the services of collectors who are usually their exclusive clients (*freguez*). The patron advances the consumer goods necessary for the collectors survival and work in the forest. The cost of the total of these goods, known as the *rancho*, will be deducted from the value of the products collected. The balance of this exchange is generally negative for the collector, who will stay indebted to the patron. However, this transaction gives the collector access to credit on the merchandise his patron grants him, which is all the more appreciated since the collector is geographically isolated and the inflationary economy means that owning paper money alone does not necessarily give access to consumer goods. From this point of view, the exchanges, although very unequal, follow the logic of barter more than that of the market. In reality, numerous people are in an intermediate position, each one acting as both client and patron. These intermediaries and their employees (crew) form multiple networks which impregnate the social fabric. In some remote places, like the Rio Negro, most of the population is involved in extractivism.

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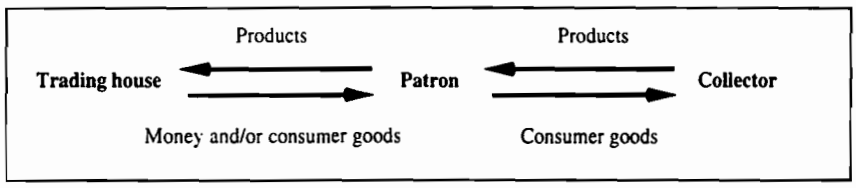

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COMPLEMENTARITY OF AGRICULTURE AND EXTRACTIVISM

Agriculture has a significant value, being synonymous with autonomy, sedentarization and so access to education for children. Cultivation also, more concretely, guarantees subsistence and enables families to be self-sufficient in food, producing the indispensable manioc flour. However, agriculture is subject to constraints and risks which make it a vulnerable activity. Frequently, the ill health of the father of the family, or his temporary absence, prevents the family opening a swidden, so that the family has to buy manioc flour for several months. Also, the ecological risks of the crop being destroyed are not negligible. So extractivism remains an attractive alternative, as it is always available and accessible when needed. This reassuring security of extractivism contrasts with the risks of agriculture, making it a complementary and often sought after activity, even if it only provides a low level of income.

On the cultural level, extractivism holds an ambiguous position: it is perceived as a low-value activity, the sign of the collector's dependence on the patron, but it is highly valued as it maintains the traditional relationship with the forest world, and shows the collector's ability to escape traps and brave daily dangers – the Amazonian *caboclo* soon becomes unstoppable when he starts recounting his adventures in the forest.

Extractive activity also has interesting repercussions on the diet, because in providing access to hunting and fishing as people move from place to place in the forest, it provides a significant protein complement. According to observations made by Sizer (1993, this volume), meat obtained by hunting comes to 800 kg hunter^{-1} year^{-1}, excluding turtle eggs. Our own observations (unpublished) show that in a *piaçaval* (forest dominated by *Leopoldinia piassaba* exploited for its fibre), a group of eight collectors hunts 270 kg game month^{-1}. Although information on the relationship between hunting and extractivism is still scarce, the importance of extractivism is demonstrated by the interest the collectors show in it.

Extractivism as an element of family strategies

Agriculture and extractivism constitute the two poles of the production systems of *caboclos* today, as they give access to exchange either of excess manioc flour or extractive products. Families organize their production strategies in function with many, often overlapping, parameters: price gained for products, access to land, educational needs of children, relations with the patron, desire for independence, physical health, etc. For the Amazonian *caboclo*, the best strategy has to be chosen each year when the swiddens are opened.

The Amazonian inhabitants seek at least a simple guarantee of survival, if not an improvement of their conditions. But the opportunities open to them, given their technological context, are limited first of all by socio-economic factors. Observed behaviours fall into three categories. The first and most extreme, is to take a chance on town life, or to go looking for gold. Each of these choices generally leads to rapid disillusion. The second is to take refuge in subsistence agriculture, which provides temporary self-sufficiency in food while waiting for opportunities other than extractivism that can provide access by barter to indispensible consumer goods like coffee, salt, sugar, etc. The third is to insert oneself into a more acceptable position in the market economy. This is the most desired option, but not the most frequent one as there are many obstacles to be overcome.

The strengths and limits of extractivism

Important repercussions on the local economy

Macro-economic studies (Homma, 1989; C. Aubertin, pers. comm.) underline the fragility of extractivism in the face of international markets and competition with cultivated products and industrial substitutes. The fact remains that extractivism completes the livelihoods of Amazonian populations. Although the collectors often denigrate it, it keeps its security value, because it often constitutes the only local market.

An activity compatible with the conservation of biological diversity

Extractivism is undeniably compatible with maintaining the humid tropical forest ecosystem. The argument that extractivism leads to rarefaction of resources does not seem to be justified for the large majority of species currently exploited. Amongst these, the studies made by our group show only one species whose exploitation leads to its destruction – rosewood exploited for its essential oil. Extraction generally conserves the exploited species and sometimes leads to the improvement and enrichment of plant populations, as is clearly the case for Brazil nut trees.

The energetic costs of collecting products would be reduced by better access to forest resources, and this would be reinforced by the implementation of agroforestry systems similar to Indonesian forest-gardens and agroforests (Foresta and Michon, 1993, this volume).

Diversity of situations

The variety of extractive activity, in terms of species exploited and socio-economic features, is one of its most striking aspects. This variety is due to factors on different levels which are nonetheless all connected to local

conditions: cultural and historical background, ecology and access to resources, population pressure and environmental degradation, and the economic, political and land tenure situations. This variety makes any kind of generalization about the future of extractivism or the implementation of improved production systems untenable, unless local contexts are considered. In each case, particular problems and specific opportunities will suggest appropriate solutions.

Cultural value

Extractivism has a high cultural value which satisfies the "ecological consciousness" of the *caboclo*. The *caboclo* sees the forest as an environment to be exploited, in contrast to the colonist who only sees it as an obstacle to economic development.

Complementarity with agriculture

Agriculture and extractivism are not in competition for land use; they are the bases of food strategies that give more flexibility to the subsistence system (access to exchange, access to hunting, fishing and gathering). This leads us to think that the development of extractivism makes no sense except in the context of its interaction with agriculture, and that the improvement of agricultural systems should go hand-in-hand with the optimization of extractivism.

THE CONDITIONS FOR OPTIMIZATION

Defending extractivism as a way of enhancing the value of the forest means, given the present conditions needed for species regeneration and the knowledge of the collectors, opting for diffuse occupation of the forest. If we aim to slow down the rural exodus and so to keep populations in place, giving them access to better material conditions and optimizing extractive activities and their complementarity with agriculture should be seen as the first steps towards sustainable development. Such optimization may involve agroforestry developments. This will be difficult given the present structures, and will not come about purely through market mechanisms, which, left to themselves, rapidly cause heightened economic, social and ecological costs. Change is needed in at three aspects of the system.

The first, social cohesion, seems to us decisive. In an environment where the presence of the State is measured by the number of T-shirts bearing pictures of regional or national representatives distributed, only structured communities will be able to find their own resources for self-development. We refer, for example, to the comparisons made by F. Grenand

(1993, this volume) on the Rio Cuieras, which clearly show the correlation between loss of productivity and degradation of the social fabric.

Second, questions of land ownership and access to cultivable land and to natural resources need to be dealt with systematically. The extractive reserve may be an appropriate solution in certain situations.

Third comes the improvement of production systems. Research is needed into solutions that can be used easily by local populations, starting from their knowledge and cultural traditions.

The technical solutions proposed by the national and international scientific community are numerous, and do not need discussion here, except to emphasize that some of them have been proposed for nearly a century, as the literature shows. Thus, the real difficulty is putting these propositions into practice, when they sometimes come up against cultural obstacles and systematically against the inertia of public authorities. It is, however, clear that concerted effort on the part of all these different social actors is indispensable for the success of any development project.

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